IN THE DRAWINGS

Please amend Figure 1 to include the legend "Prior Art". A replacement figure for Figure 1 is included herewith.

REMARKS

I. Introduction

In response to the Office Action dated January 27, 2006, Applicants have amended claims 4, 5, 8, 11, 14, 17, 18, 21, 24, 27, 30, 31, 34, 37, and 40 to more particularly point out and distinctly claim the subject matter of the invention. No new matter has been added. In view of the foregoing amendments and the following remarks, Applicants respectfully submit that all pending claims are in condition for allowance.

II. Claim Rejections Under 35 U.S.C. § 112

Claims 4, 5, 7, 8, 10, 11, 13, 14, 16 – 18, 20, 21, 23, 24, 26, 27, 29, 30, 32, 33, 36, 37, 39, 40, and 42 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants traverse this rejection for at least the following reasons.

Regarding claims 4, 17, and 30, the Examiner asserts that the phrase "reads data from the requested address in the released page memory unit" is indefinite. Applicants have amended these claims to more particularly recite the subject matter of the invention.

Regarding claim 5, the Examiner assert that the sentence structure is unclear. Applicants have amended claim 5 to more particularly recite the structural relationship among the recited claim elements. Claims 8, 11, 14, 18, 21, 24, 27, 31, 34, 37, and 40 have been similarly amended. The Examiner has not referred to any particular recitations in claim 7, 10, 13, 16, 20, 23, 26, 29, 32, 33, 36, 39, and 42 that are considered to be indefinite. Applicants presume that these claims have been rejected because of their dependency on other rejected claims. If there are specific portions of these claims that the Examiner considers indefinite, the Examiner is asked to specifically address those claims in the next Office Action.

Applicants respectfully submit that the foregoing amendments have overcome all of the rejections under 35 U.S.C. § 112, second paragraph. As such, withdrawal of these rejections is requested.

III. Claim Rejections Under 35 U.S.C. § 103

Claims 1 – 4, 17, and 30 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,233,195 to Yamizaki in view of U.S. Patent No. 4,084,230 to Matick. Claims 5 – 16, 18 – 29, and 31 - 42 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Yamizaki and Matick in view of the Grunwald publication "Improving the Cache Locality of Memory Allocation". Applicants traverse these rejections for at least the following reasons.

Claim 1 recites, among other things, a plurality of page memory units obtained by partitioning a second memory unit which is accessible by the processor at a speed higher than a speed at which the first memory unit is accessible such that each of the page memory units has a storage capacity larger than a storage capacity of a line composing a cache memory. At least this feature is not taught or suggested by any of the cited references, alone or in combination with each other.

Yamazaki appears to disclose a dynamic random access memory which includes a processor, a DRAM serving as a main memory, and an SRAM cache (*see*, column 1, lines 30 – 35). The Examiner equates the SRAM cache with the second memory unit recited in claim 1. However, the SRAM cache recited by Yamazaki is a conventional cache memory. Yamazaki does not disclose that the SRAM cache is partitioned into a plurality of page memory units having a storage capacity larger than a storage capacity of a line composing a cache memory.

Matick also fails to disclose or suggest this feature. Matick appears to disclose an associative directory for main memory and cache memory. While it appears that the system and method disclosed by Matick uses a replacement and control system to determine the eligibility of a page for replacement when a miss occurs, Matick does not disclose a second memory unit which is accessible by a processor at a speed faster than the processor can access the first memory unit and which has a plurality of page memory units each having a storage capacity larger than that of a line composing a cache memory.

The Examiner asserts that it would have been obvious to one of ordinary skill in the art to "implement a page memory unit having a larger storage capacity than a line in a cache memory since a larger page than a line will make the processing function and page replacement algorithm easier to design and manage by the operating system." However, neither Yamazaki nor Matick suggest the desirability of having a plurality of page memory units each having a storage capacity larger than that of a line composing a cache memory. It is only Applicants' disclosure that discloses this feature, which enables information to be stored in the page by using a relatively easily understandable processing function that can be managed by an operating system and easier design of memory replacement scheduling (*see* Specification at pages 4 – 5). Additionally, Applicants have discovered that the set number of page memory units can be reduced compared to that of lines composing a conventional cache memory. Due to this structure, it is possible to reduce the number of tags each corresponding to a page memory unit, resulting in a reduction of the circuit scale and power consumption.

Thus, the only motivation of record for the proposed modification of the cited prior art to arrive at the claimed invention is found in Applicants' specification and the use of this motivation is impermissible hindsight. As each and every limitation must be disclosed or

suggested by the cited prior art references in order to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 (see, M.P.E.P. § 2143.03), and neither Yamizaki nor Matick, alone or in combination with each other does so, it is respectfully submitted that claim 1 is patentable over these references.

Claims 2 – 42 depend from claim 1. Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claim 1 is patentable for the reasons set forth above, it is respectfully submitted that all dependent claims are also in condition for allowance.

IV. Conclusion

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited.

If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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